

REMARKS

I. Status of the Application

Claims 1-21 are pending in this application. In the August 1, 2003 office action, the Examiner:

A. Withdrew claims 12-19 from consideration as alleged being drawn to a non-elected invention;

B. Rejected claim 1-11, 20 and 21 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,351,223 to DeWeerd et al. (hereinafter “DeWeerd”);

C. Rejected claim 1-11, 20 and 21 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,429,785 to Griffin et al. (hereinafter “Griffin”); and

D. Rejected claim 1-11, 20 and 21 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,564,159 to Lavoie et al. (hereinafter “Lavoie”).

In this response, applicants have amended the title of the invention and have amended claims 1, 20 and 21 to clarify the claimed subject matter. Applicants respectfully traverse the rejections of claims 1-11, 20 and 21 in view of the foregoing amendments and the following remarks.

II. The Rejections are in Error

In the August 1, 2003 office action, the Examiner rejected the pending claims over any and all of Griffin, DeWeerd and Lavoie. As will be discussed below in detail, none of these

references teaches, shows or suggests each and every element of any of the claims. As a consequence, it is respectfully submitted that the anticipation rejection of the claims are in error and should be withdrawn.

A. The Present Invention

Claim 1 is directed to an arrangement for generating and storing metering information in a meter that measures a consumed commodity. The arrangement includes a processing circuit and a non-volatile, rewriteable random access memory. The processing circuit is operable to generate metering information. The non-volatile, rewriteable random access memory stores metering information during normal operation, and is operable to retain the stored metering information in the absence of external electrical power. The amendment further clarifies that the phrase “external electrical power” means electrical power external to the memory itself.

Claim 12 is directed to a method of storing metering information in a utility meter that includes employing a processing circuit to generate metering information, periodically storing the metering information in a non-volatile rewriteable random access memory, and retaining the stored metering information in the memory in the event of a power failure.

Claim 20 is similar to claim 1, but further recites that, in addition to metering information, the non-volatile rewriteable random access memory stores program code to be executed by the processing circuit. In addition, the processing circuit also generates metering information in the form of load profiling information.

Claim 21 is similar to claim 1, but further recites that, in addition to metering

information, the non-volatile rewriteable random access memory stores calibration information.

B. Lavoie

Lavoie discloses a method for defining meter data calculations. The method includes storing a set of predefined data calculation instructions in a non-volatile memory of the meter, storing a first set of vectors in a memory of a meter, and controlling calculations performed on the metered electrical quantities in accordance with the data calculation instructions pointed to by the first stored set of vectors. The nonvolatile memory is disclosed to be a *flash memory*.

C. Lavoie Does Not Teach a Nonvolatile RAM as Claimed

Lavoie fails to teach, show or suggest “a non-volatile, rewriteable random access memory”, as called for in claims 1, 20 and 21. In particular, Lavoie teaches the use of a *flash* memory as the nonvolatile memory. It is the flash memory of Lavoie, according to the Examiner, that constitutes the claimed nonvolatile random access memory (See August 1, 2003 office action at p.2). However, a flash memory is *not* a random access memory.

Flash memory, as is known in the art and as admitted by Lavoie, is a type of non-volatile memory in which large sectors of memory are written by “flashing” the sectors to erase any existing material, and then writing data to the sector. As noted by Lavoie:

Flash memory 118 is typically organized into multiple large sectors (64 KB) which can be erased in their entirety. When flash memory is erased, all bits in a sector are set to 1. When data is written, 1 bits are changed to 0 bits. *Once a bit has been changed to a 0, it cannot be changed back to a 1 without erasing the entire sector.*

(Lavoie at col. 10, lines 62-67) (emphasis added). Similarly, the Microsoft Computer

Dictionary provides the following definition of “flash memory”

A type of nonvolatile memory. Flash memory is similar to EEPROM memory in function but it must be erased in blocks, whereas EEPROM can be erased one byte at a time. Because of its block-oriented nature, flash memory is commonly used as a supplement to or replacement for hard disks in portable computers. . . . *A disadvantage of the block-oriented nature of flash memory is that it cannot be practically used as main memory (RAM) because a computer needs to be able to write to memory in single-byte increments.*

(Microsoft Computer Dictionary, Fourth Edition, Microsoft Press, 1999 at p.188, see Exh. A) (emphasis added).

Thus, the sources described above clearly recognize the distinction between block addressable flash memory and RAM. A flash memory is only block rewriteable, while random access memory may be rewritten in smaller increments. The present invention clearly claims a non-volatile *random access memory*.

Because Lavoie employs a flash nonvolatile memory, Lavoie fails to teach or suggest “a non-volatile, rewriteable random access memory” as called for in claims 1, 20 and 21. As a consequence, it is respectfully submitted that the rejection of claims 1, 20 and 21 as being anticipated by Lavoie is in error and should be withdrawn.

Claims 2-11 depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claims 2-11 over Lavoie should be withdrawn.

D. Griffin Does Not Teach a Nonvolatile RAM as Claimed

Griffin fails to teach, show or suggest “a non-volatile, rewriteable random access memory”, as called for in claims 1, 20 and 21. Griffin, like Lavoie, teaches the use of a *flash* memory as the nonvolatile memory. The Examiner contends that the flash memory of Griffin

constitutes the nonvolatile random access memory (See August 1, 2003 office action at p.2).

As discussed above, a flash memory is not a random access memory.

Griffin also mentions the use of non-volatile RAM. However, Griffin uses this term to describe *battery-backed* RAM. (Griffin at col. 8, lines 53-58). As discussed in the present application, battery-backed RAM poses issues and difficulties which the claimed invention was intended to overcome. (Application at pp. 4-5). The claimed invention is clearly distinguished from battery-backed RAM, because, as claimed, the “non-volatile, rewritable random access memory [is] operable to retain the stored metering information in the absence of electrical power from a source external to the non-volatile, rewriteable random access memory.” In other words, the *claimed* non-volatile RAM stores information even without a battery back-up.

For all of the foregoing reasons, it is respectfully submitted that Griffin fails to teach or suggest all of the elements of claims 1, 20 and 21. As a consequence, the anticipation rejection of claims 1, 20 and 21 over Griffin is in error and should be withdrawn.

Claims 2-11 depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claims 2-11 over Griffin should be withdrawn.

E. DeWeerd Does Not Teach a Nonvolatile RAM as Claimed

DeWeerd similarly fails to teach, show or suggest “a non-volatile, rewriteable random access memory”, as called for in claims 1, 20 and 21. DeWeerd, like Lavoie and Griffin, teaches the use of a *flash* memory as the nonvolatile memory. As discussed above, a flash

memory is not a random access memory.

Accordingly, it is respectfully submitted that DeWeerd fails to teach or suggest all of the elements of claims 1, 20 and 21. As a consequence, the anticipation rejection of claim 1, 20 and 21 over DeWeerd is in error and should be withdrawn.

Claims 2-11 depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claims 2-11 over DeWeerd should be withdrawn.

III. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicants have made a patentable contribution to the art. Favorable reconsideration and allowance of this application is, therefore, respectfully requested.

Respectfully submitted,



Harold C. Moore
Attorney for Applicants
Attorney Registration No. 37,892
Maginot Moore & Beck
Bank One Center Tower
111 Monument Circle, Suite 3000
Indianapolis, Indiana 46204-5115
Telephone: (317) 638-2922